

Date: Fri, 1 Oct 93 04:30:18 PDT
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V93 #64
To: Ham-Ant

Ham-Ant Digest Fri, 1 Oct 93 Volume 93 : Issue 64

Today's Topics:

 ??Guy wires interfear with dipole??
 Cushcraft R7: Want Comments
 Directional 50MHz Antenna for radio phone?
 Ethernet Cable for Amateur Use
 Help with TVI from vertical antenna!
 Minimum distance from building for 2m ground plane?
 Mixing two antennas with phase
 Power output question
 Why won't my 40 meter dipole work on 15 meters? (2 msgs)

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 26 Sep 1993 17:47:37 GMT
From: elroy.jpl.nasa.gov!usc!math.ohio-state.edu!darwin.sura.net!perot.mtsu.edu!
raider!theporch!jackatak!root@decwrl.dec.com
Subject: ??Guy wires interfear with dipole??
To: ham-ant@ucsd.edu

szhall@elroy.ucdavis.edu () writes:

> I have just put up a tall mast with a 2 meter vertical on the top of it.
> Now I wish to add a dipole to the mast by putting out a 18" arm..My
> question is this: Will the guy wires which hold up the medel mast
> interface with the dipole?

What band will the dipole be for? And, how long are the guy wires and
how long is the mast? If the guys or the mast are resonant at the

design frequency (or a multiple $\lambda/4$ of the design freq) of the dipole, there will be some interaction, and your pattern will be odd.

Still, the dipole will *want* to work, and probably will if you want it too as well... ;^)

Consider the dimensions of each part of your equation, and figure that unless you have some unfortunate coincidence with guy wires being resonant with your dipole, just put it up and don't worry... ;^)

73, Jack/W4PPT

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+-----+
| Jack GF Hill          |Voice: (615) 459-2636 -           Ham Call: W4PPT |
| P. O. Box 1685        |Modem: (615) 377-5980 -   Bicycling and SCUBA Diving |
| Brentwood, TN 37024|Fax:   (615) 459-0038 -           Life Member - ARRL |
| root@jackatak.raider.net - "Plus ca changer, plus c'est la meme chose" |
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Date: Thu, 30 Sep 1993 09:52:24 -0700
From: orca.es.com!cnn.sim.es.com!msanders.sim.es.com!user@uunet.uu.net
Subject: Cushcraft R7: Want Comments
To: ham-ant@ucsd.edu

I am interested in the Cushcraft R7 antenna. I have heard some good comments locally, but would like some comments from others in various parts of the country (local is Utah). It sounds "pricey" but covers the bands I use and would fit nicely in my available space.
Thanks (would be interested in a used one for reasonable price)

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Opinions, thoughts, &cetera are my own and not representative of Evans & Sutherland.

"He flies the sky
Like an Eagle in the eye
of a hurricane that's abandoned."

KB7MSF
Amateur Radio
"Sandman"

America

work: (801) 582-5847 ext 6530
FAX: 5848
home: (801) 224-1757

Date: 30 Sep 93 12:56:49 GMT
From: mulvey!rich@uunet.uu.net
Subject: Directional 50MHz Antenna for radio phone?
To: ham-ant@ucsd.edu

Gary McDuffie Sr (mcduffie@unlinfo.unl.edu) wrote:
: Okay, I'll bite... what is a radio phone?
: Must be a Canadian thing. The term isn't common in the States.

Well, maybe not where you live. :-)

When someone mentions a Radio Phone around here, it's assumed that they mean one of those horrible, noisy, heavy beasts that were commonly used by traveling salesmen before cellular came along. :-)

- Rich

--

Rich Mulvey Amateur Radio: N2VDS Rochester, NY
rich@mulvey.com "Ignorance should be painful."

Date: Thu, 30 Sep 1993 03:36:22 GMT
From: csus.edu!netcom.com!decastro@decwrl.dec.com
Subject: Ethernet Cable for Amateur Use
To: ham-ant@ucsd.edu

gdo@aloft.att.com (Glenn D. O'Donnell) writes:

>I have obtained a good amount of Teflon thick Ethernet coax cable.
>I would like to use it for my amateur antennas. It's shielded beyond
>belief with a braid-foil-braid-foil setup. Does anybody know how it's
>electrical characteristics relate to other popular coax types such as
>Belden 9913? I'm well aware that it is 50 ohm and expensive. :-)

The stuff is GREAT. I've used belden ethernet cable (I don't recall the model) in fairly long runs (125 +/- ft) for low power xmtrs and rcvrs, and it works great. The stuff I had would use a regular pl-259 or n-connector without any trouble.

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Date: 29 Sep 1993 23:19:22 GMT
From: library.ucla.edu!agate!usenet.ins.cwru.edu!odin!trier@network.ucsd.edu
Subject: Minimum distance from building for 2m ground plane?
To: ham-ant@ucsd.edu

I live in a third-floor apartment and have limited antenna possibilities. I was considering building a basic 2m vertical, perhaps the classic coat-hanger ground plane, and mount it outside of a window. I'm trying to judge the practicality of this. Is the building proximity going to be a problem? How far out must I put the antenna?

Stephen

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Stephen Trier  KB8PWA           "This is not a computer --
Work: trier@ins.cwru.edu       this is my arch-enemy!"
Home: sct@po.cwru.edu          - O'Brian, DS9
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Date: Thu, 30 Sep 1993 14:25:35 GMT
From: library.ucla.edu!agate!howland.reston.ans.net!pipex!uknet!
pavo.csi.cam.ac.uk!pmms.cam.ac.uk!andrew@network.ucsd.edu
Subject: Mixing two antennas with phase
To: ham-ant@ucsd.edu

I wish to mix the signals from two FM antennas (around 100MHz) with a somewhat adjustable phase shift, in order to null an undesired signal.

Can anyone please point me to where I might find a (simple) circuit whereby to achieve this?

Many thanks
Andrew Thomason <andrew@pmms.cam.ac.uk>

Date: 29 Sep 1993 13:56:19 -0500
From: saimiri.primate.wisc.edu!caen!uwm.edu!cs.utexas.edu!TAMUTS.TAMU.EDU!
news.utdallas.edu!corpgate!crchh327.bnr.ca!kharker@ames.arpa
Subject: Power output question
To: ham-ant@ucsd.edu

I just built a 1/4 wave 2m vertical antenna for my packet operations, and I have it up and working. I know the antenna design itself can't have too many dolbys to it (I followed the design in the 1993 ARRL Handbook), and considering

that I had to mount it on one side of the attic and drop the feed line down a wall on the opposite side of the house, I am now wondering just how much power output I am putting out.

I have an SWR meter, and I've managed to get the swr down to 1.1 to 1.2 or so, so I know the vast majority of the power my ht pushes out isn't being reflected, but I wonder how much loss I am getting in all that feed line and the half dozen connectors between the ht and the antenna.

Now, surely there's some sort of device I can put by the antenna, transmit through the ht, and read how many db's my antenna is putting out (or is it watts I should be concerned about?) How can I tell how efficient my antenna system is being?

Since i can't really shorten the feed line, this is mostly to satisfy my curiosity...

Thanks and 73's...

_ken

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=====
Kenneth E. Harker      Bell Northern Research      "Any opinions expressed
kharker@bnr.ca         Richardson, Texas, USA       are solely mine and do
N1PVB                  (214) 684-5115             not represent BNR"
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Date: 30 Sep 93 22:44:23 GMT

From: ogicse!news.tek.com!tekig7!tekig6!royle@network.ucsd.edu

Subject: Why won't my 40 meter dipole work on 15 meters?

To: ham-ant@ucsd.edu

rossi@VFL.Paramax.COM (Pete Rossi):

>. . .

>About 9 years ago when I moved, I started out all over with another simple
>40 meter dipole again. But this time I also used a 1:1 balun at the
>feedpoint. It worked fine on 40 meters but had very high SWR on 15 meters.
>I figured that maybe the balun had something to do with the high SWR on 15
>meters. I wasn't too concerned since I didn't need it as a 15 meter
>antenna.

>Recently the balun failed [opened?] and as a temporary fix I simply
>removed it. Once again the dipole is working fine on 40 meters. It has a
>very nice SWR curve. Perfect 1:1 at 7000 and rises to about 1.8:1 at 7300

>Without the balun, I thought I would see if the dipole would once again
>work on 15 meters. But again, the SWR is *very* high, infinite, across

>the entire 15 meter band. Reflected power is exactly the same as forward
>power everywhere on the entire 15 meter band.

>This dipole is about 25 feet off the ground, fed with RG8. The coax drops
>down 90 degrees from the wire to the ground and off to the basement
>window.

>I can understand the potential for the SWR being 'off a little' on 15
>meters, but *infinite* across the whole band? What could be so far off?

>=====

>Pete Rossi - WA3NNA	rossi@vfl.paramax.COM
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>

>Unisys Corporation - Government Systems Group
>Valley Forge Engineering Center - Paoli, Pennsylvania

>=====

Pete, there are two things you should look at. The first is the effect of not having a balun. Without a balun, current from the inside of the shield flows both into the antenna and along the outside of the shield. (The currents on the inside and outside of the shield don't interact.) How much flows each way is determined by the impedances of each path. The coax itself then becomes part of the antenna, connected in parallel with one side of the dipole. The length, position, and distance to ground of the coax will affect your SWR and radiation pattern. The effect could be quite different on the two bands. The solution is to use a "choke" or "current" balun, preferably at the feedpoint. See the ARRL Handbook for information on building them. I'm partial to the info in the '91 and later editions. (This may have something to do with my having written it.) You can buy them from several sources, of course.

The second thing to consider is that a resonant 40 meter antenna isn't resonant on 15 meters. It's close, but no cigar. The amount of difference depends on wire diameter and proximity to ground, but a run-of-the-mill wire antenna will require nearly two more feet of length to resonate on 15 than on 40. A quick computer model shows a #12 wire 40 feet off the ground to be resonant at 7.0 MHz when it's 67.7' long. Its feedpoint resistance is 90.5 ohms, for an SWR of 1.8:1. At 21.0 MHz, the feedpoint impedance is 95.0 - j110 ohms, for an SWR of 4.8:1 (50 ohm feedline assumed in both cases). I've made them work on both bands by shortening the antenna slightly and adding a small inductor at the feedpoint. The inductor has three times the reactance at 21 MHz than it does at 7, so it can be sized to resonate the system at both frequencies. You might be able to get by without the inductor by compromising and making the antenna a bit long for 40 and a bit short for 15.

Hope this helps. Good luck!

73,
Roy Lewallen, W7EL
royle@tekig6.pen.tek.com

Date: Wed, 29 Sep 1993 18:52:40 -0700
From: orca.es.com!cnn.sim.es.com!msanders.sim.es.com!user@uunet.uu.net
Subject: Why won't my 40 meter dipole work on 15 meters?
To: ham-ant@ucsd.edu

In article <1993Sep28.163343.7152@VFL.Paramax.COM>, rossi@VFL.Paramax.COM
(Pete Rossi) wrote:

>
> Once upon a time.. far far away...
>
>
>
> This dipole is about 25 feet off the ground, fed with RG8. The coax drops
> down 90 degrees from the wire to the ground and off to the basement window.
>
> I can understand the potential for the SWR being 'off a little' on 15 meters,
> but *infinite* across the whole band? What could be so far off?
>
>

I also made 40M half wave dipole. Its about 15 ft off the ground, but it
does tune up on 15M. I am using RG 58/U coax with no balun. Looks like
only difference is height and coax and perhaps that mine is over the roof
of the house. Milt

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Opinions, thoughts, &cetera are my own and not representative of Evans &
Sutherland.

"He flies the sky
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of a hurricane that's abandoned."

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End of Ham-Ant Digest V93 #64
